



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Eric Thomas Gohr et al. )  
Serial No.: 10/740,074 ) Group Art Unit: 1714  
Filed: December 17, 2003 ) Examiner: Szekely, Peter A.  
For: METHOD FOR REDUCING HAZE IN )  
A FIRE RESISTANT POLYCARBONATE )  
COMPOSITION )

**REPLY BRIEF**

**A. STATUS OF THE CLAIMS**

Claims 1-29 are pending in the application.

Claims 10-20 are allowed.

Claims 1-9 and 21-29 stand rejected. Appellants have appealed the final rejection of Claims 1-9 and 21-29.

**B. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 1-9 and 21-29 have been rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over U.S. Patent No. 5,449,710 to Umeda et al. (Umeda) in view of U.S. Patent No. 6,353,046 to Rosenquist et al. (Rosenquist) or U.S. Patent No. 4,130,530 to Mark et al. (Mark), further in view of U.S. Patent No. 5,663,280 to Ogoe et al. (Ogoe '280) or U.S. Patent No. 5,041,479 to Ogoe (Ogoe '479).

2. In the Examiner's answer, the Examiner apparently states a new ground of rejection of claims 1-6, 21-27, and 29, as obvious over 449,710 to Umeda et al. (Umeda) in view of U.S. Patent No. 5,663,280 to Ogoe et al. (Ogoe '280) or U.S. Patent No. 5,041,479 to Ogoe (Ogoe '479).

This is found at page 5 of the Examiner's Reply at page 5:

From these [facts] it is perfectly clear that using the polycarbonate/flame-retardant salt masterbatch of the Ogoe patents in the polycarbonate, flame-retardant salt, cyclic siloxane composition of Umeda et al. is obvious and desirable. The so-called IR concentrate of the ('479) patent is a masterbatch too. Accordingly claims 1-6, 21-27, and 29 should be rejected without even considering the Rosenquist et al and the Mark et al. patents.

The Applicants appeal this rejection.

### C. ARGUMENT

Applicants appeal the new rejection of claims 1-6, 21-27, and 29 over Umeda in view of Ogoe '280 or Ogoe '479, to the extent that it is asserted by the Examiner.

In making this rejection, the Examiner reiterates that Umeda discloses a composition comprising a polycarbonate, a perfluoroalkanesulfonic acid or alkali metal salt thereof, and an organopolysiloxane. (Examiner's Answer, p. 4.) The Examiner further notes that Ogoe '280 discloses masterbatching the perfluoroalkanesulfonic acid or alkali metal salt in Examples 20-27, and that Ogoe '479 discloses masterbatching polycarbonate and additives in the Abstract and from column 1, line 53 to column 2, line 17. According to the Examiner, it would have been obvious to one having ordinary skill in the art, at the time of the invention, "to masterbatch the polycarbonate and the salts for optimum dispersion of the flame-retardants and to use the siloxanes of the secondary references in order to improve the flame-retardance and eliminate the brittleness upon molding." (Examiner's Answer, p. 4.)

The Examiner elaborates in the Response to Argument section, stating:

The advantages of masterbatching an additive in order to achieve better dispersion in a matrix, are well known. Additionally, Ogoe ('479) states that said masterbatching process, when polycarbonate and salts of perfluoroalkanesulfonic acid are used, results improved impact properties as measured by Izod impact tests and it eliminates dust particles. See Abstract and column 2, lines 10-18. The masterbatch can be compounded with other additives. See column 3, lines 53-59. Ogoe et al. ('280), who describe the polycarbonate/salt masterbatch in Examples 20-27, specifically, include silicones as possible additives in column 12, lines 19 and 21. From these [facts] it is perfectly clear that using the polycarbonate/flame retardant salt, cyclic polysiloxane composition of Umeda et al. is obvious and desirable. The so-called IR concentrate of the ('479) patent is a masterbatch too.

(Examiner's answer, pp. 4-5.)

The present claims require first blending the specified flame retardant salts with polycarbonate to make a concentrate; pelletizing the concentrate; then blending the pelletized concentrate with additional polycarbonate (i.e., the second polycarbonate) and a cyclic siloxane to manufacture the fire resistant polycarbonate. Ogoe '280 fails to disclose the pelletizing step of the claimed process. In Example 20-27, cited by the Examiner,

Ogoe '280 discloses adding a phosphate ester and an alkali metal salt to a carbonate polymer to form the additive masterbatch. (Col. 18, line 66 – Col. 19, line 5.) The additive masterbatch together with a UV stabilizer, antioxidant, epoxidized soybean oil are then combined with linear polycarbonate and pelletized in an extruder. (Col. 19, lines 6 – 67.) Thus, the additive masterbatch disclosed by Ogoe '280 is a granular mixture that has not been blended and pelletized as is presently claimed, and there is no suggestion in Ogoe '280 to make this modification. Indeed, one of ordinary skill in the art would be motivated to not make this modification in view of the additional expenditure of time and energy required to add a pelletizing step. In the absence of any suggestion to make this modification, or of any expectation of success in so doing, the claims are not obvious over Umeda in view of Ogoe '280

Ogoe '479 discloses making a concentrate by pelletizing a polycarbonate polymer and one or more additives selected from the group consisting of a metal salt, a halogenated aromatic compound, a metal salt of an inorganic compound, a free aromatic sulfimide and a fibril forming polytetrafluoroethylene (see Claim 1). The Examples of Ogoe '479 teach manufacturing an "IR concentrate" comprising all of the additives and the polycarbonate in a single step. (Examples 1 – 3 in Col. 3, line 64 to Col. 4, line 50.) The concentrate is then "let down in or blended with" with only the base polycarbonate resin. Ogoe '479 further states that "[t]he improvement of Izod impact via the use of IR concentrate is attributed to more uniform dispersion using IR concentrate than using IR masterbatch." (Col. 5, lines 32 – 35.) The Examiner has cited this as motivation for using a concentrate. (Office Action dated 07/27/04, page 4.)


Applicants note, however, that Ogoe '479 discloses pelletized concentrates that contain all of the additives used in the final composition, whereas in the present claims at least one additive – the cyclic siloxane – is not present in the pelletized concentrate. One of ordinary skill in the art, reading Ogoe '479, would have included both the flame retardant salts and the cyclic siloxane in the pelletized concentrate, rather than separating them as in the present claims. In the absence of any motivation to specifically select a

cyclic siloxane for exclusion from the pelletized concentrate, and any expectation of success in so doing, the claims are nonobvious over Umeda in view of Ogoe '479.

If there are any additional charges with respect to this Appeal Brief, please charge them to Deposit Account No. 07-0893.

Respectfully submitted,

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